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ABSTRACT

This two-part document describes the development of a word processing instructional program at NEKA Vo-Tech School (Kansas) and offers recommendations for incorporating word processing into the curriculum. Program development steps which are discussed include: assessing community needs; developing implementation phases; contacting other instructors; researching facility needs; subscribing to journals; and researching funding sources. The list of criteria by which eleven brands of word processing equipment were compared includes: cost; service and repair; systems support; training; ease of operation; equipment standardization; buy versus lease; vendor reputation; storage capacity; printing speed; output or print quality; warranty; training manuals; and software and supplies. The following recommendations are offered: at an equipment demonstration, care should be taken to check out the equipment on tasks that it will be used for; when incorporating word processing into the postsecondary curriculum, the highest priorities are language arts and keyboarding skills; and speed should be measured by line count rather than words per minute. The following skills are described as being important: machine transcription; proofreading; grammar; use of reference sources; records management; basic mathematics; word processing terminology; and correction methods. A 30-item list of points to clarify during an equipment demonstration is included. (DC)

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HOW TO CHOOSE AND INCORPORATE WORD PROCESSING EQUIPMENT INTO YOUR CURRICULUM

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ABSTRACT

HOW TO CHOOSE AND INCORPORATE WORD PROCESSING EQUIPMENT
INTO YOUR CLASSROOM

Section I: Choosing Word Processing Equipment

Great care must be taken in purchasing equipment to ensure that the system matches student and community needs in business education. The equipment selected also should be of a design that can be used for multiple purposes--word processing, data processing, and for computer-assisted instruction. Because there are so many products on the market related to information processing, it is essential that you do a thorough survey of equipment in order to match it to your needs. All users of the equipment should be involved in selecting hardware and software so that equipment, maintenance, and servicing is integrated and cost effective. The selection process I chose revealed justifiable evidence for the purchase of this "new generation" equipment. Phases are listed and explained in the report that proved successful in the purchasing of Word Processing equipment. A line comparison of equipment is also detailed in this section.

Section II: Incorporating Word Processing Into Your Curriculum

As the primary purpose of office technology is to increase productivity of office personnel, students need to learn not one, but a number of technologies, at least on a conceptual level. A major challenge to business education is the development of a curriculum to reflect the rapidly changing technology and its impact on society. Several methods that have proven successful of incorporating courses into your curriculum are explained. Also listed are the areas in which training is needed in order for the students to posses the qualifications so they can take their place in the "modern office of today."

Utilizing the ideas and methods in this report will help insure that the students are qualified employees for today's office.

SECTION I

CHOOSING WORD PROCESSING EQUIPMENT

Word Processing is a system of utilizing people, procedures, and equipment in a more efficient manner in order to increase productivity in the office and more effectively increase the flow of written communication.

The thought of organizing and implementing a word processing program at NEKA Vo-Tech School began in the summer of 1981 when our Director told us that money had been allotted for Word Processing equipment. My first exposure to this new term was encountered by enrolling for and attending the Word Processing Symposium in Kansas City that summer. It took four months of careful planning and much dedication to realize that the equipment was a reality; not a dream.

The selection process I chose revealed justifiable evidence for the purchase of this "new generation" equipment. (These steps are not necessarily in order of importance.)

The first step in the planning procedure was to determine if there was a need for Word Processors in our community and the surrounding districts which we serve. We already knew, with our proximity to St. Joseph, MO and Kansas City, that there would be jobs in the major metropolitan areas. We contacted several local businesses in order to determine if, and to what extent, Word Processing was being utilized by them. The response indicated that Word Processing was being used, and/or being considered for future use by these local businesses.

A list of projected targets was then developed that would need attention in order to get our program implemented. These target phases included:

1. Approval by our local school Director
2. Approval and support by our Advisory Board
3. Approval by the local School Board
4. Selection of equipment
5. Adequate location of the equipment and wiring of the room
6. Development of a curriculum
7. Selection of instructional materials
8. Methodology of instruction
9. Budget
10. Bid writing

The most crucial target, of course, was budgetary considerations.

Each of the phases were approached one at a time. As I was the one to instruct this program, many hours were spent attending workshops; conventions; and visiting and receiving vendors and publishers in order to determine the kinds of equipment, software, and textbooks to be used in the program. Material published in professional magazines and journals concerning Word Processing were read and reread. Equipment exhibits are definitely a big plus here. It's much easier if you have an idea of the basic equipment you want--screen display, memory, expansion, etc.

Visits to or phone calls to other educators instructing office system programs were conducted. Their experiences were taken into account when selecting the equipment. Membership in the International Word Processing Association (IWP) kept us in tune with what was occurring in the field. Being receptive to varied information on feasibility and implementation is important during planning this program.

Information on office layout and furniture was researched. This may seem to be a minor decision, but it can affect the comfort, productivity, and even the health of the Word Processing operators and people around them. Such things as noise level, temperature, static, electrical circuits, lighting, dust contamination, and seating were taken into consideration.

I am currently subscribing to several Word Processing publications. From this you have a greater knowledge of what to look for when selecting Word Processing equipment. These periodicals also keep one up to date on equipment trends, concepts, and applications. Datapro and Seybold Reports were also consulted. I also requested to be put on mailing lists for complimentary copies of magazines that contain comparisons of features and prices for everything from typewriter ribbons to Word Processors. These publications also review "State of the Art" of Word Processing equipment.

Sources of funds need to be researched. The Director of our school was consulted about the budget money that was or could be allotted for this equipment. The vendors were also asked to help with this phase.

Information was gained from vendors on the types of office systems available. Eleven vendors were contacted and equipment was demonstrated--

NBI	Wang
IBM	Lanier
Dictaphone	Micom
Xerox	CPT
Vydek	AMJackard
Compucorp	

A line comparison was made in the areas listed on pages 5 and 6. (By taking the list of capabilities available on each vendor's equipment, and comparing these to our mandatory list, the number of machines to be considered was reduced.) After this comparison was completed, our Advisory Committee, Director, and instructors in the Office Education Department chose three vendors. These vendors were notified and asked to bring in equipment for a demonstration.

From this, a vendor which compensated our needs was chosen. The user and the vendor should engage in a fact-gathering process to realistically define application needs. At a pre-arranged demonstration, make sure you sit down and operate the equipment. Be up front in letting them know you intend to complete a check list and clarify all points. (See Attachment A) The demonstration prepared by vendors will be "canned" and will likely amaze you. You want to know specifically how the equipment can handle your needs; therefore, be prepared to have the vendor show you how to process one of your documents. Make notes as you visit each vendor. As part of your demonstration management procedures, you should consider some of these points:

1. Type at least two paragraphs from some of your work. (Check for machine instructions when creating the document and status information. Make errors and see how corrections are made. Store.)

2. Recall the document and change a word or two. (Check for ease.)

3. Underline a phrase. (Some equipment does not have this feature.)

4. Change the margins on your created document. (When a center command is given, is the line centered with the text or with the page?)

5. Move paragraphs. (Check for number of steps involved.)

6. Perform a spelling check if one is available. (Check time spent and number of steps.)

7. Print copies. (Check line adjustment.)

8. Examine the "hard copy." (Is the print the type you need? Does it print upper and lower case?)

9. Put a couple of variables in your document. (Merge and see how many steps are involved.)

10. Try column layout.

Information from which the above mentioned line comparison was made include these:

a) Cost--Prices will vary greatly and will, of course, be influenced by all of the things mentioned here. Price does not always provide a sure indication of the quality or lack of it in equipment. Present users' satisfaction with their equipment and what is read in the Word Processing periodicals should be taken into consideration.

b) Service and Repair--It is essential that we be assured that service is readily available and that personnel are well trained. No one can afford downtime.

c) Systems Support--Can the vendor assist us in conducting a survey to determine the need in our community? Will the vendor help set up procedures and applications to provide a smooth installation of equipment?

d) Training--Does the vendor provide training for me? Will additional people be trained free of charge? Does the vendor provide training not only for the operators of Word Processing equipment, but for those, such as the administration staff, who will be directly and indirectly involved in the Word Processing installation? Where is training--on site (at school) or in a regular training classroom environment?

e) Ease of Operation--Equipment that is easy to operate will encourage both word originators (dictation equipment) and equipment operators (Word Processing typewriters) to use it frequently.

f) Standardization of Equipment--Compatability of equipment can mean greater efficiency of output and certainly simplified student/employee training.

g) Buy Versus Lease--Will it be financially advantageous for the school to buy rather than lease? What considerations should be given to

obsolescence, improved technology, and expansion of the system? If a change in equipment is made by the firm after a trial lease period, what will be the costs in terms of media conversion, rekeyboarding, and the like? What will it cost to retrain on new equipment? What procedural changes will have to be made? What trade-in value will the present equipment have?

h) Reputation of Vendor--Has the vendor been in business long enough to prove financial stability? Has the vendor's product gained widespread acceptance? Is it "debugged"? Will the firm continue to provide essential services and support? Is the firm reliable?

i) Storage Capacity--On what type of medium is the information stored? How much information can be stored on each medium?

j) Speed of Printing--Even though this is not one of the most important items, make sure if it is burst speed that they are talking about.

k) Quality of Output or Print--Impact printer is better for schools than jet ink printer. The impact is slower but gives the appearance of an actual typed page.

l) Warranty--How long? What does it cover? When does it go into affect--when the equipment is purchased or when installed?

m) Training Manuals--They should be well illustrated and not just tell about parts of the machine.

n) Software and Supplies--Exactly what additional material is included with the hardware?

Next, a list of existing users were acquired from the vendors. These users were contacted to see how well their systems worked. When I talked with a user, such questions about limitations, delays, errors, and other problems

they encountered were asked. Specific details about performance were obtained. I visited with such places and individuals as banks, attorneys, hospitals, prisons, oil companies, government agencies, etc.

The phase of writing the bid was a task. I chose the features that would be of benefit to us in the classroom and to the administrative office. I was also concerned about expansion and a system from which students could transfer easily. Some of the reasons for selecting the NBI 3000 were:

Expansion
Upgrading
Compatability
Training
Support
Delivery
Ease of Use
Features (outline, tabs, index, printer, automatic repagination, educational materials, etc.)

(A bid sheet and recommendations may be made available.)

Word Processing will change the office like the jet plane has revolutionized travel and the way video games has altered family life. Once you have mastered the operation of this "new generation" equipment, you will have contacted the new technological virus known in computer language as Word Processing Fever.

As we at NEKA Vo-Tech look down the road, we are considering the inevitable terminology change from Word Processing to Information Processing. We do have a Data Processing Department that utilizes the System 34, and we are anticipating the combining of Word Processing and Data Processing via communication. Information Processing may be thought of as a collection of word and data processing equipment, procedures, software, data and people that integrates the subsystems of the organizations and provides information for the user. Information is processed data. Data are input

facts and figures; whereas, information is the output for decision making. More people will begin to realize that all these office systems are really information systems. They are helping us produce information, communicate information, and analyze information.

In conclusion of this section, I'm proud to say that our chosen system--NBI 3000--currently ranks as one of the top three Word Processors.

SECTION II

INCORPORATING WORD PROCESSING INTO YOUR CURRICULUM

The business world is one of the most rapidly changing environments of today's society. It is an exciting time to us as business educators. All of us must be students of change in order to be instructors of business curriculums.

Firstly, we must realize that the Word Processing systems approach deals with people, procedures, and equipment as an organized whole, rather than each part separately.

On the Post-Secondary level, Word Processing content may be taught in specific courses, such as the following ones I incorporate. Currently, our Office Education Department has a NBI System 3000, dictation and transcription equipment, an electronic typewriter, and a memory typewriter. Students interested in Word Processing must be machine-oriented, persistent in problem solving, possess systematic work habits, pay attention to details, and be adaptable to change.

As offices strive to improve the efficiency of processing words, typewriting skills will continue to be an office prerequisite. After basic requirements of skills have been met, students in beginning and advanced typewriting classes receive a brief exposure to Word Processing concepts and equipment.

Good typing-keyboarding skills are given the main emphasis. Fast, accurate typing will become more important. Efficient keyboarding is stressed as Word Processing operators are measured and evaluated by productivity (usually lines per day). In advanced typing classes, the line measurement

system may be taught and students should be graded on the basis of usable lines instead of wpm. Word Processing Supervisors in our area will help to identify realistic line count measurement. Students are taught basic touch typewriting skills, then speed and accuracy are emphasized alternately on a cyclical schedule throughout the year.

A minimum typing speed of 45 to 55 words per minute should be maintained. Once a minimum speed has been reached, the stress will be switched to accuracy. Accuracy in the Word Processing environment includes the ability to know when a keyboarding error has been made so that the error may be easily corrected on Word Processing equipment.

Students are taught to type from rough drafts, longhand, and machine dictation. The instructing of the backspace correction technique should be done as it teaches alignment and is used on many Word Processing machines.

Dictation is being used more widely in creating work in the business world because of the stress on time management for professional staff. Shorthand in Word Processing environments is not really being utilized; however, machine dictation is very prevalent. Machine transcription capabilities have become a very important and integral part of Word Processing. Familiarity with machine transcription as a means of creating typed copy has become a must. Using machine dictation has created other problems in the processing of typed work, primarily proofreading.

Time should be spent developing the art of dictation as well as the art of originating effective communication. Students can be taught how to organize their thoughts with the aid of outlines and develop the concept of how to best relate their message. They need to learn to be good listerners and should be guided in procedures for dictating secretarial instructions.

Proofreading is the ability to read what is actually on the page and not what we know should be there. This ability requries a high degree of attention to detail. Proofreading for typographical errors is only one portion of that skill. Checking continuity of thought and making sure the sentence structure makes sense requires grammar proficiency. The third element of proofreading is checking for consistency. All of these segments which are vital to the accuracy of work performed in Word Processing comprise the skills necesary in proofreading. Therefore, a variety of proofreading techniques are introduced: proofreading twice, proofreading for a specific purpose (e.g., numbers or punctuation), proofreading one line at a time with a ruler, proofreading with another person, or exchanging papers with a neighbor. Students use proofreader's marks when correcting their work.

Grammatical skills are a key qualification for any student. Since a large volume of typed copy generated in Word Processing is received via dictation, basic sound vocabulary is mandatory for this type of work. The ability to spell, punctuate and capitalize is very important in transcribing dictation and is considered as a necessary skill. Although it may seem elementary, the ability to alphabetize is sorely lacking in many students/employees. In the business environment, this skill is necessary in maintaining a variety of mailing lists. Being able to recognize and, if necessary, correct improper sentence structure is helpful. Determining correct paragraphing and sequence is an added skill that makes a student very attractive to a potential employer. The ability to quickly grasp and understand what is read is somewhat lacking in students. This is a skill which can be improved by reading practice. In the beginning it does not matter what the subject is. As a level of proficiency is attained, the quality of the subject matter

should be elevated. Interpretation of the written word is one of the main functions of the business world and a necessary skill to possess. It is also important to stress word division rules; students use word division books and dictionaries.

Since the principal function of Word Processing is transforming handwritten or dictated materials into typed copy, it is often necessary to use reference sources. The three most important reference sources in the world of Word Processing are the: (a) dictionary, (b) thesaurus, and (c) secretaries' manuals or guides. Although this sounds basic, many students do not possess the skills to properly use these reference sources. I feel strongly that all individuals in this field need a working knowledge of these sources.

Records management should be addressed, including the modern methods of storage (microform) and alternatives to hardcopy storage. Photocomposition interface with Word Processing should also be taught here.

It may seem odd to include mathematics as a skill needed in Word Processing. There are a variety of type styles and sizes used in the business world today. Because of this fact, math is used daily in figuring: (a) how many characters per inch to determine how long your horizontal line length will be; (b) how many lines comprise a vertical inch; and (c) how much material will fit on a typed page. Without basic math skills, completion of these kinds of tasks would be unnecessarily time consuming. Math is also needed in setting up charts and graphs and in statistical typing. As students progress in their careers, math plays an even more important role. Scheduling work and meeting deadlines are key factors in successful Word Processing center operation. Supervisors must compute the number of typed pages that

will result from submitted material whether it be handwritten copy or dictated on tape. Completion times are based on a simple mathematical formula--how much = how long. There is also a need in the field of Word Processing to maintain production statistics for management. Basic math skills are definitely necessary for this task.

We need to expand our vocabulary and expose students to Word Processing terminology. When teaching the concepts of elite and pica, the term "pitch" may be introduced. Emphasize dual pitch and that both elite and pica are often included on the same typewriter. The term formatting (the placement and layout of material) should be taught. Students need the ability to format written communications such as letters, memos, manuscripts, forms, envelopes, and statistical reports. Students should be given the reasons why they do various types of formatting. It will be pointed out to students that any correspondence they keyboard is a "document." When introducing tabulation problems on electronic equipment, students are told about "decimal tabs." They are given instructions to set tabs at the decimal point. Additional terms that are included are: "standard line length," "text," "delete," "rough drafts," "justification," "turnaround time," and "printout speeds."

Several "correction methods" should be taught. The backspace/strikeover technique is common in Word Processing for error correction. Students will practice rough-draft typing at high speeds, waiting to correct all errors at once. Life-off tape, liquid cover-up, and erasing are still taught briefly.

New and additional skills that are taught to students include: how words and documents are recorded in memory and how a series of instructions is given to a machine. Students will keyboard short form letters, merging variables--with inside addresses being among the variables. Students will be told about and given a copy of the letter style(s) more/most commonly used.

Terminology and concepts may be integrated as a unit in the Office/Secretarial Procedures class. This unit would cover the role and definition of Word Processing, types of Word Processing equipment, types of Word Processing systems, types of Word Processing occupations including job titles and job descriptions, and how Word Processing may change the role of a traditional secretary in a large firm.

Listening and following directions, utilizing manuals, setting priorities, and working as part of a team are also emphasized in our business curriculum. Problem solving situations should be offered to stress the importance of a positive attitude.

If Word Processing equipment (visual display system) is not available for classroom use, students should be exposed to this equipment through field trips, films, speakers, vendor demonstrations, and/or bulletin boards.

In summary, it appears that the single skill with the highest priority for the Word Processing support personnel is language arts. Thus, the curriculum begins with a good oral and written communications program. The second basic skill in that of keyboarding--both the regular typewriter keyboarding skills as used with office typewriters and numeric keyboarding skills as used with the ten-key pads found on calculators and on many automatic typewriters. Also, in the basic curriculum, opportunities are being provided for the students to become skilled at using a variety of reference materials. These skills combine to make up the foundation for any Word Processing program.

Once a student has the basic skills, it is possible to move to the capstone courses which stress a high level of competence in transcribing skills, the ability to work with others as part of a team and as a team leader, and the use of effective and efficient procedural skills. This is the

Word Processing curriculum which will provide students with skills needed for entry-level positions in Word Processing.

Those who will be attractive to the Word Processing field will possess these qualities: reasonable problem-solving/decision-making skills; positive, enthusiastic work attitude toward responsibility and challenge; good judgment; and professional attitude toward their work habits, performance requirements, and behavior in a business atmosphere.

Utilizing these ideas will help insure that the students are qualified to take their place in the "modern office of today."

"We must educate people in what nobody knew yesterday, and prepare people....for what no one knows yet, but which some people must know tomorrow." (cited in Barnes, 1972, p. 28.)

ATTACHMENT A

Check list of points to clarify during a Word Processing vendor demonstration:

1. Justification
2. Pagination/Repagination
3. Automatic Centering
4. Margin Setting
5. Proportional Spacing (printing features)
6. Mass Mailing
7. Type a new document while one is being printed
8. Type of mass storage
9. Speed of output (printer speed)
10. Type of printer--dot matrix or formed character
11. Software licensing required
12. Delivery Dates? Delivery or Installment Fees?
13. Service? How soon? Cost?
14. Purchase and rental price
15. List of existing users of their equipment. How many systems installed in the area and nationally?
16. Training. Where? How long to learn? Materials? How is training provided? Cost of additional training?
17. Warranty
18. Updating of software? Cost?
19. Number of lines of display on CRT
20. Disk holds how many pages of text
21. Does it do any Data Processing functions? Calculations?
22. References of users
23. Options on the equipment
24. Is there a good manual? Have exercises been developed for specific classroom use or do they have to be rewritten?
25. Standalone or shared logic
26. Menu/Command driven
27. Document or page oriented
28. Footnotes
29. When was the system first introduced
30. User friendly